



K20P 1077

Reg. No. :

Name :

III Semester M.Sc. Degree (CBSS – Reg./Suppl./Imp.)

Examination, October 2020

(2014 Admission Onwards)

BOTANY

BOT 3E02 : Genetic Engineering

Time : 3 Hours

Max. Marks : 60

Instruction : Draw diagram wherever necessary.

SECTION – A

1. a) Write an account of recombinant DNA technology.

OR

b) Write an account of antisense RNA technology.

2. a) Describe physical methods of gene delivery to plants.

OR

b) Explain the strategies of heterologous gene expression.

(2×8=16)

SECTION – B

Answer any two :

3. a) What are gene cloning vectors ?

b) Explain codon optimization.

c) Give an account of characterization of recombinant proteins.

(1+2+3)

4. a) What is mutagenesis ?

b) Explain *in vitro* mutagenesis.

c) Write an account of site directed mutagenesis.

(1+2+3)

5. a) What is biosafety ?

b) Explain objectives of biosafety.

c) Write an account of biosafety aspects of transgenic plants.

(1+2+3)

(2×6=12)

P.T.O.



SECTION – C

Answer **any six** :

6. Explain patenting laws.
7. Give an account of herbicide resistant transgenic plants.
8. Explain architecture of Ti-plasmid.
9. Write an account of micro-arrays.
10. Give an account of biotech industries in India.
11. Explain achievements in agri-biotechnology in India.
12. Explain the methods of immunotechnology.
13. Give an account of genomic library.

(6×3=18)

SECTION – D

Answer **any seven** :

14. Mycoprotein
15. Bio-farming
16. DNA primers
17. C-DNA
18. AFLP
19. Binary vector
20. Transposon
21. pUC
22. GUO
23. Southern blotting.

(7×2=14)